

**REMARKS**

Entry of the amendment to paragraph 1 of the Specification, which updates the Government Rights paragraph, is respectfully solicited.

The Office Action mailed December 22, 2004, has been received and reviewed. Claims 1 through 43 are currently pending in the application. Claims 1 through 4, 8 through 10, 30 through 32 and 35 stand rejected. Claims 5 through 7, 11, 12, 15, 17 through 29, 33, 34, and 36 through 43 have been objected to as being dependent upon rejected base claims, but the indication of allowable subject matter in such claims is noted with appreciation. Claims 13, 14, 16, 36, 37, and 39 through 42 are allowed. Applicants have canceled claim 5, amended claims 1, 6, 12, 15, 17, 20-32, 38, and 43, and respectfully request reconsideration of the application as amended herein.

**Claim Objections**

Claims 15, 17, 20 through 30, 32, 38 and 43 are objected to under 37 C.F.R. § 1.75(d)(1). Appropriate corrections have been made as suggested by the Examiner.

**35 U.S.C. § 103(a) Obviousness Rejections**

Obviousness Rejection Based on U.S. Patent No. 6,078,681 to Silver in view of U.S. Patent No. 5,422,733 to Kaufman et al.

Claims 1, 9 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Silver (U.S. Patent No. 6,078,681) in view of Kaufman et al. (U.S. Patent No. 5,422,733). Applicants respectfully traverse this rejection, as hereinafter set forth.

Regarding claim 1, claim 1 has been amended to include the subject matter of claim 5, which the Examiner has indicated includes allowable subject matter. As a result, claim 5 has been canceled. Furthermore, due to the allowable subject matter in added to claim 1, amended claim 1 is now allowable and Applicants respectfully request that the rejection of claim 1 be withdrawn.

Regarding claims 9 and 10, these claims depend from allowable amended claim 1 and are, therefore, allowable. As a result, Applicants respectfully request that the rejection of claims 9 and 10 be withdrawn.

Obviousness Rejection Based on U.S. Patent No. 6,078,681 to Silver in view of U.S. Patent No. 5,422,733 to Kaufman et al., and further in view of U.S. Patent No. 6,083,167 to Fox et al.

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Silver (U.S. Patent No. 6,078,681) in view of Kaufman et al. (U.S. Patent No. 5,422,733), and further in view of Fox et al. (U.S. Patent No. 6,083,167). Applicants respectfully traverse this rejection, as hereinafter set forth.

Claim 2 depends from allowable amended claim 1 and is, therefore, allowable. As a result, Applicants respectfully request that the rejection of claim 2 be withdrawn.

Obviousness Rejection Based on U.S. Patent No. 6,078,681 to Silver in view of U.S. Patent No. 5,422,733 to Kaufman et al., and further in view of U.S. Patent No. 6,008,813 to Lauer et al.

Claims 3 and 4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Silver (U.S. Patent No. 6,078,681) in view of Kaufman et al. (U.S. Patent No. 5,422,733), and further in view of Lauer et al. (U.S. Patent No. 6,008,813). Applicants respectfully traverse this rejection, as hereinafter set forth.

Claims 3 and 4 depend from allowable amended claim 1 and are, therefore, allowable. As a result, Applicants respectfully request that the rejection of claims 3 and 4 be withdrawn.

Obviousness Rejection Based on U.S. Patent No. 6,078,681 to Silver in view of U.S. Patent No. 5,422,733 to Kaufman et al., and further in view of U.S. Patent No. 5,678,556 to Maki et al.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Silver (U.S. Patent No. 6,078,681) in view of Kaufman et al. (U.S. Patent No. 5,422,733), and further in view of Maki et al. (U.S. Patent No. 5,678,556). Applicants respectfully traverse this rejection, as hereinafter set forth.

Claim 8 depends from allowable amended claim 1 and is, therefore, allowable. As a result, Applicants respectfully request that the rejection of claim 8 be withdrawn.

Obviousness Rejection Based on U.S. Patent No. 6,078,681 to Silver in view of U.S. Patent No. 5,422,733 to Kaufman et al., and further in view of U.S. Patent No. 5,498,876 to Moscovitch, U.S. Patent No. 6,589,502 to Coniglione et al., U.S. Patent No. 6,083,167 to Fox et al., U.S. Patent No. 6,008,813 to Lauer et al., and U.S. Patent No. 6,354,114 to Mackie et al.

Claim 30 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Silver (U.S. Patent No. 6,078,681) in view of Kaufman et al. (U.S. Patent No. 5,422,733), and further in view of Moscovitch (U.S. Patent No. 5,498,876), Coniglione et al. (U.S. Patent No. 6,589,502), Fox et al. (U.S. Patent No. 6,083,167), Lauer et al. (U.S. Patent No. 6,008,813), and Mackie et al. (U.S. Patent No. 6,345,114). Applicants respectfully traverse this rejection, as hereinafter set forth.

Applicants have amended claim 30 to include subject matter that the Examiner has indicated as allowable in other claims. Namely, the element of “until a position when the material of a uniform volume element of the plurality is substantially different from the material of a starting element of the plurality of uniform volume elements” has been added. As a result, amended claim 30 is now allowable and Applicants respectfully request that the rejection of claim 30 be withdrawn.

Obviousness Rejection Based on U.S. Patent No. 6,078,681 to Silver in view of U.S. Patent No. 5,422,733 to Kaufman et al., and further in view of U.S. Patent No. 5,498,876 to Moscovitch, U.S. Patent No. 6,589,502 to Coniglione et al., and U.S. Patent No. 5,678,556 to Maki et al.

Claims 31 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Silver (U.S. Patent No. 6,078,681) in view of Kaufman et al. (U.S. Patent No. 5,422,733), and further in view of Moscovitch (U.S. Patent No. 5,498,876), Coniglione et al. (U.S. Patent No. 6,589,502), and Maki et al. (U.S. Patent No. 5,678,556). Applicants respectfully traverse this rejection, as hereinafter set forth.

Regarding claim 31, Applicants have amended claim 31 to include subject matter that the Examiner has indicated as allowable in other claims. Namely, the elements of “at least one secondary direction” and “calculating an error term for each secondary direction, the error term being used to adjust a coordinate value whenever the error term exceeds a threshold value” have been added. As a result, amended claim 31 is now allowable and Applicants respectfully request

that the rejection of claim 31 be withdrawn.

Regarding claim 35, claim 35 depends from allowable amended claim 31 and is, therefore, allowable. As a result, Applicants respectfully request that the rejection of claim 35 be withdrawn.

Obviousness Rejection Based on U.S. Patent No. 6,078,681 to Silver in view of U.S. Patent No. 5,422,733 to Kaufman et al., and further in view of U.S. Patent No. 5,498,876 to Moscovitch, U.S. Patent No. 6,589,502 to Coniglione et al., U.S. Patent No. 6,008,813 to Lauer et al., and U.S. Patent No. 6,354,114 to Mackie et al.

Claim 32 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Silver (U.S. Patent No. 6,078,681) in view of Kaufman et al. (U.S. Patent No. 5,422,733), and further in view of Moscovitch (U.S. Patent No. 5,498,876), Coniglione et al. (U.S. Patent No. 6,589,502), Lauer et al. (U.S. Patent No. 6,008,813), and Mackie et al. (U.S. Patent No. 6,345,114).

Applicants respectfully traverse this rejection, as hereinafter set forth.

Claim 32 depends from allowable amended claim 31 and is, therefore, allowable. As a result, Applicants respectfully request that the rejection of claim 32 be withdrawn.

#### **Objections to Claims 5-7, 11, 12, 15, 17-29, 33, 34, 38, and 43/Allowable Subject Matter**

Claims 5 through 7, 11, 12, 15, 17 through 29, 33, 34, 38 and 43 stand objected to as being dependent upon rejected base claims, but are indicated to contain allowable subject matter and would be allowable if placed in appropriate independent form.

Regarding claim 5, claim 5 has been canceled because the subject matter of claim 5 has been included in amended claim 1.

Regarding claim 6, claim 6 depended from claim 5. However, because claim 5 is canceled, claim 6 has been amended to depend from amended claim 1.

Regarding claims 7 and 11, these claims depend from allowable amended claim 1 and are, therefore, allowable. As a result, Applicants respectfully request that the rejection of claims 7 and 11 be withdrawn.

Regarding claim 12, Applicants have rewritten claim 12, as suggested by the Examiner, in independent form to include all the subject matter of claim 1 as it was recited prior to this

Amendment.

Regarding claim 15, claim 15 has been amended as suggested by the Examiner to overcome the objection to claim 15. As a result, amended claim 15 is now allowable and Applicants respectfully request that the rejection of claim 15 be withdrawn.

Regarding claim 17, claim 17 has been amended as suggested by the Examiner to overcome the objection to claim 17. As a result, amended claim 17 is now allowable and Applicants respectfully request that the rejection of claim 17 be withdrawn.

Regarding claims 18 and 19, these claims depend from allowable amended claim 17 and are, therefore, allowable. As a result, Applicants respectfully request that the rejection of claims 18 and 19 be withdrawn.

Regarding claim 20, claim 20 has been amended as suggested by the Examiner to overcome the objection to claim 20. As a result, amended claim 20 is now allowable and Applicants respectfully request that the rejection of claim 20 be withdrawn.

Regarding claims 21-28, these claims depend from allowable amended claim 20 and are, therefore, allowable. As a result, Applicants respectfully request that the rejection of claims 21-28 be withdrawn.

Regarding claim 29, claim 29 has been amended as suggested by the Examiner to overcome the objection to claim 29. As a result, amended claim 29 is now allowable and Applicants respectfully request that the rejection of claim 19 be withdrawn.

Regarding claims 33 and 34, these claims depend from allowable amended claim 31 and are, therefore, allowable. As a result, Applicants respectfully request that the rejection of claim 33 and 34 be withdrawn.

Regarding claim 38, this claim depends from allowable amended claim 36 and is, therefore, allowable. As a result, Applicants respectfully request that the rejection of claim 38 be withdrawn.

Regarding claim 43, claim 43 has been amended as suggested by the Examiner to overcome the objection to claim 43. As a result, amended claim 43 is now allowable and Applicants respectfully request that the rejection of claim 43 be withdrawn.

#### **Allowed Claims**

Applicant note with appreciation the allowance of claims 13, 14, 16, 36, 37, and 39-42.

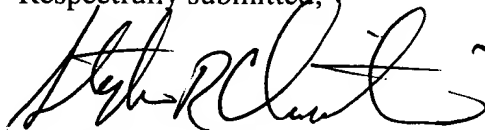
### ENTRY OF AMENDMENTS

The amendments to claims 1, 6, 12, 15, 17, 20-32, 38, and 43 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application. Further, the amendments do not raise new issues or require a further search.

### CONCLUSION

Claims 1-4 and 6-43 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, the Examiner is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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